

FIG.1

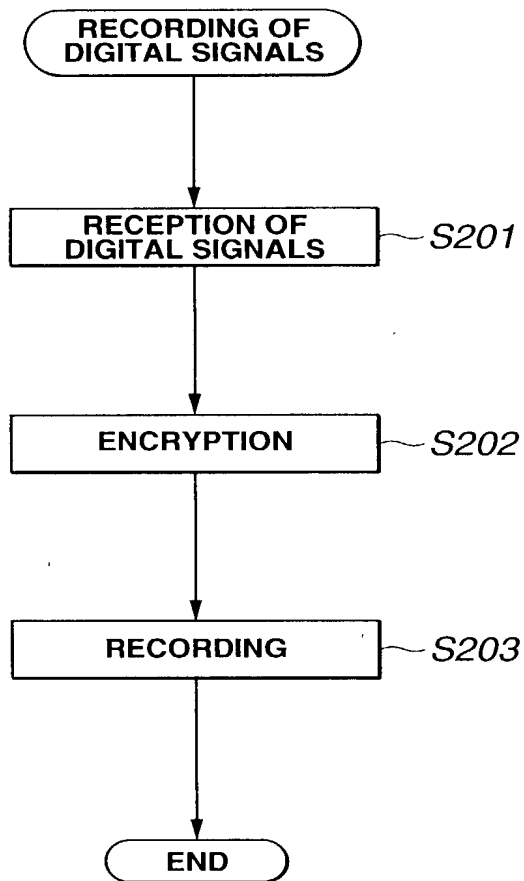


FIG.2A

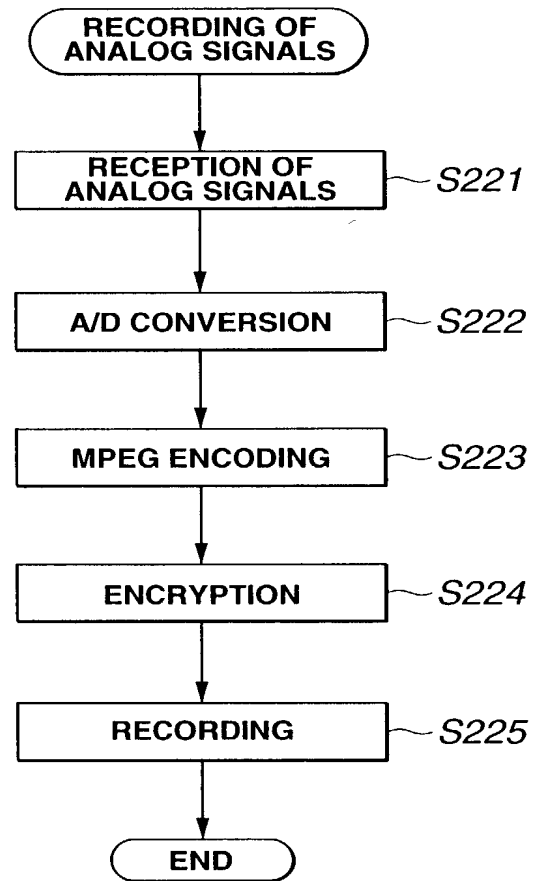


FIG.2B

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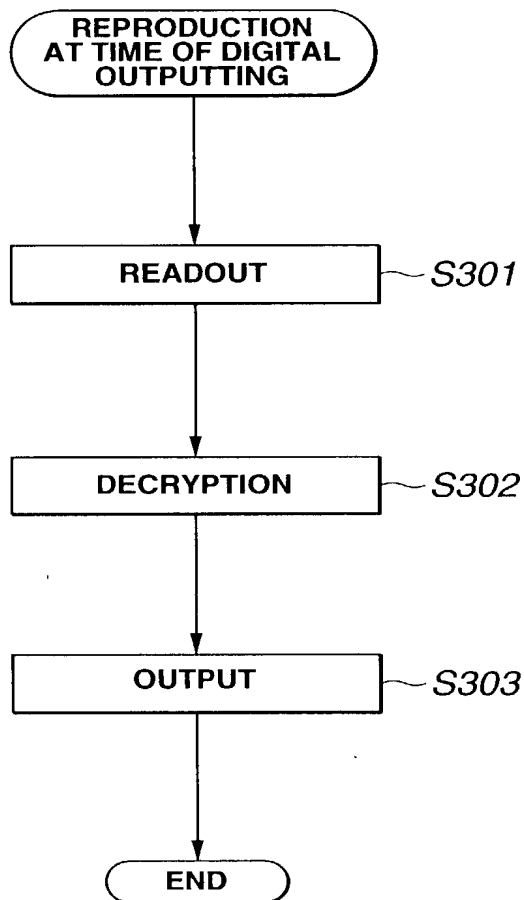


FIG.3A

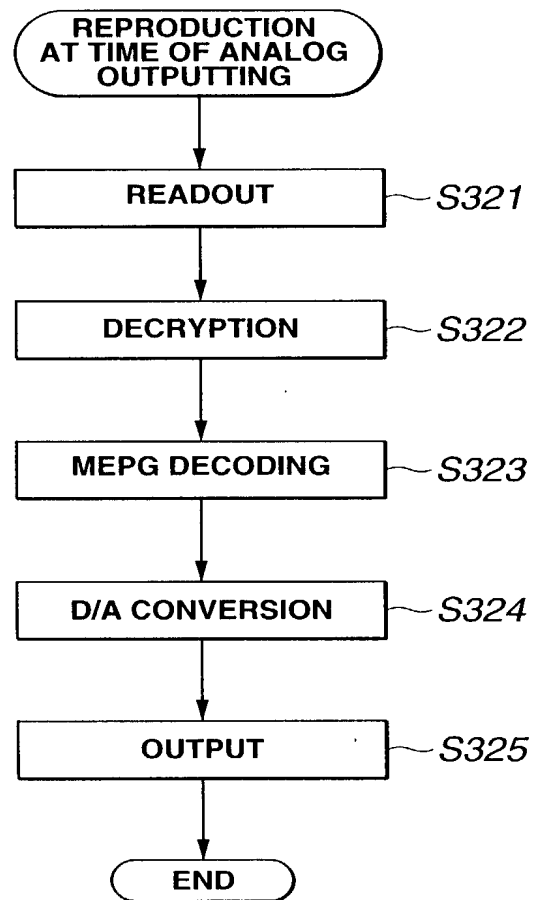


FIG.3B

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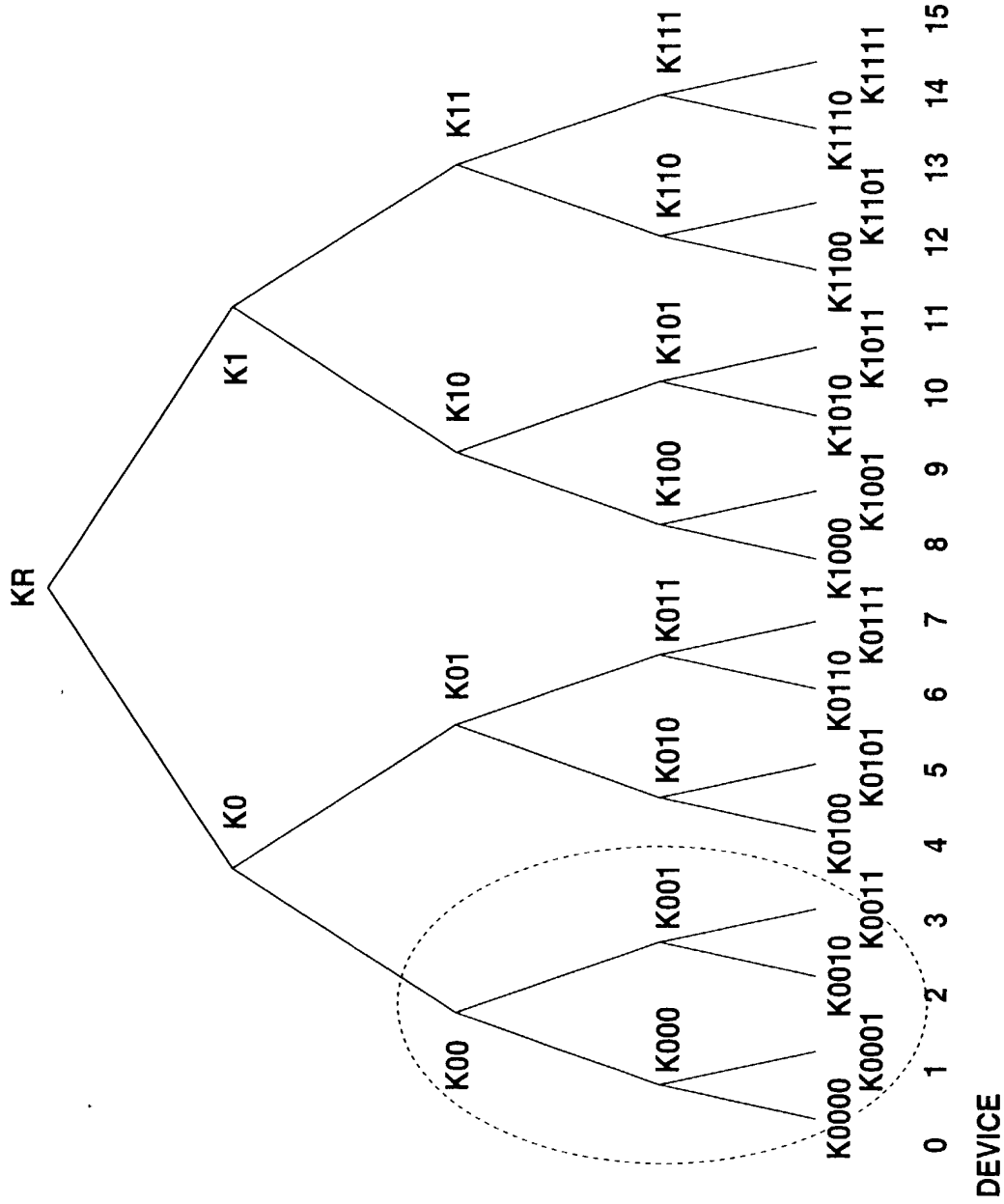


FIG.4

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KRB : Key Renewal Block INSTANCE 1
SEND ROOT KEY $K(t)R$ AT TIME t TO DEVICES 0, 1, 2

GENERATION : t	
INDEX	ENCRYPTED KEY
0	$\text{Enc}(K(t)0, K(t)R)$
00	$\text{Enc}(K(t)00, K(t)0)$
000	$\text{Enc}(K000, K(t)00)$
001	$\text{Enc}(K(t)001, K(t)00)$
0010	$\text{Enc}(K0010, K(t)001)$

FIG.5A

KRB : Key Renewal Block INSTANCE 2
SEND ROOT KEY $K(t)R$ AT TIME t TO DEVICES 0, 1, 2

GENERATION : t	
INDEX	ENCRYPTED KEY
000	$\text{Enc}(K000, K(t)00)$
001	$\text{Enc}(K(t)001, K(t)00)$
0010	$\text{Enc}(K0010, K(t)001)$

FIG.5B

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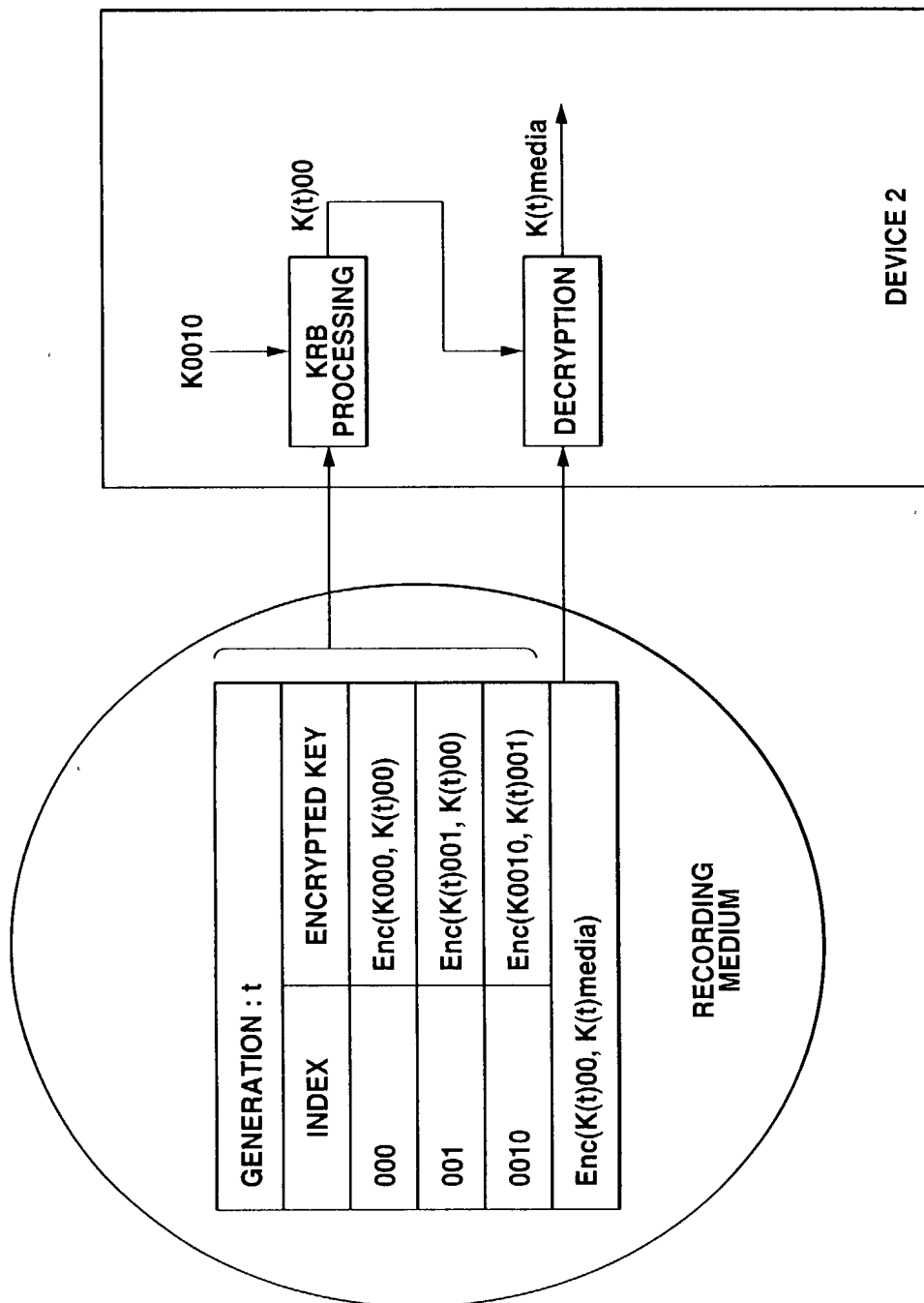


FIG.6

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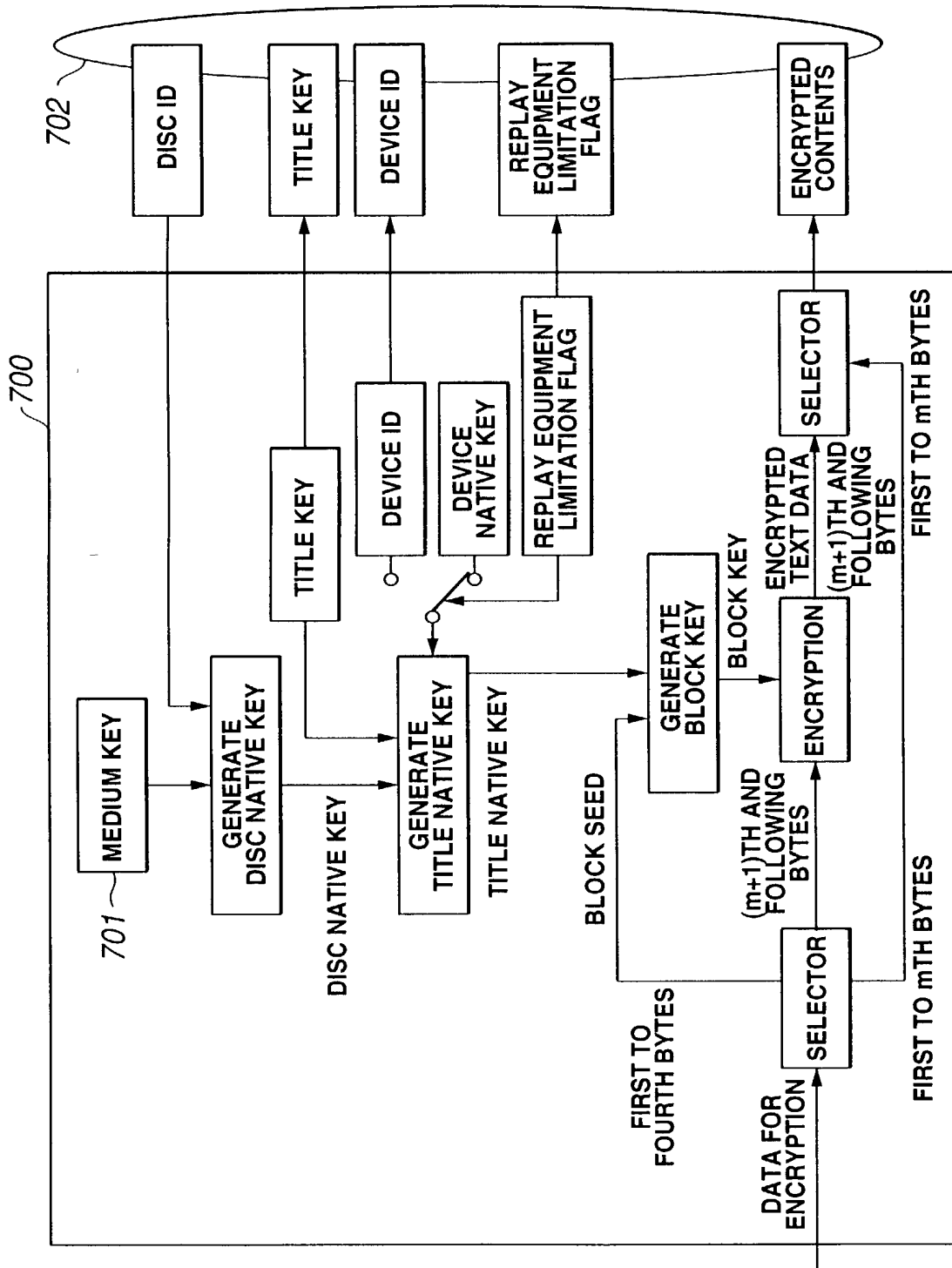


FIG. 7

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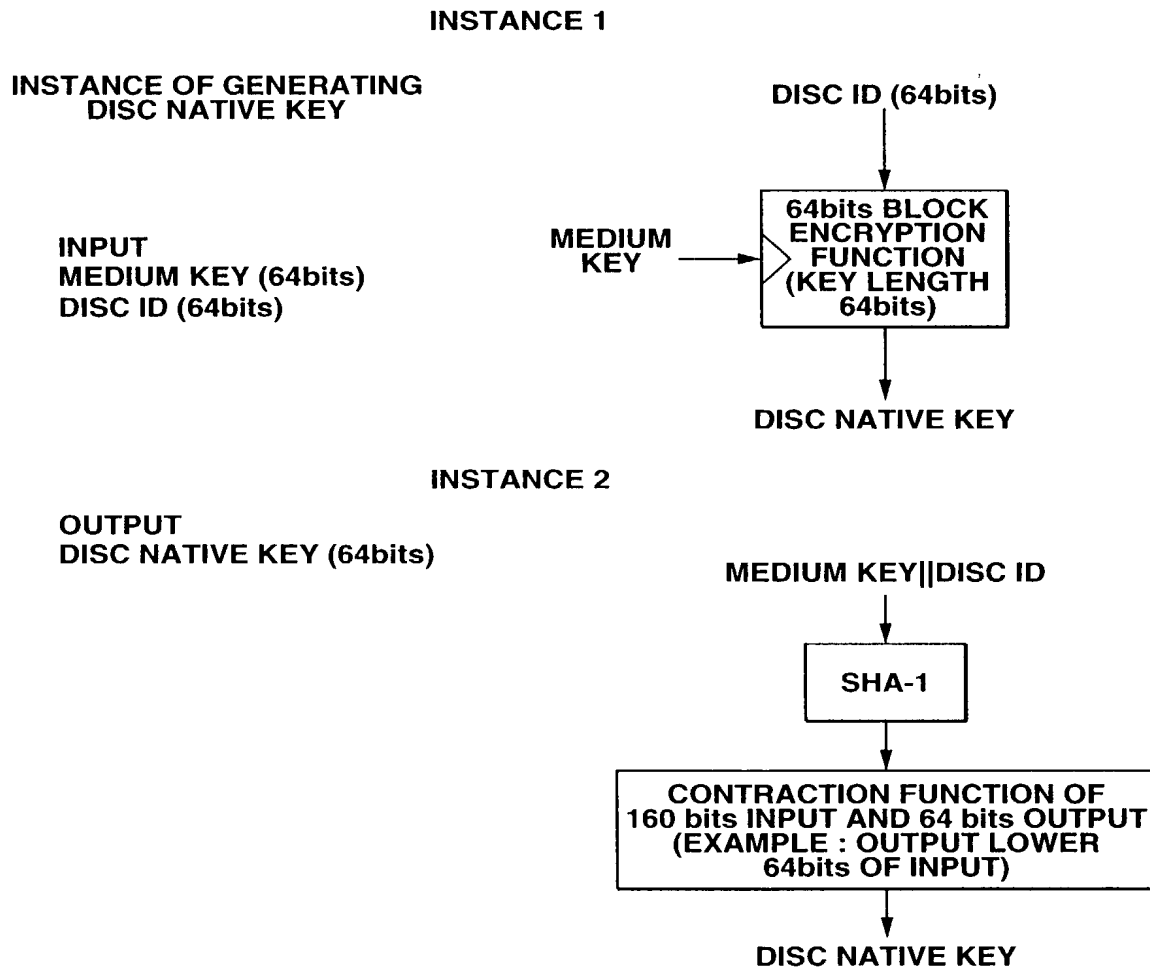


FIG.8

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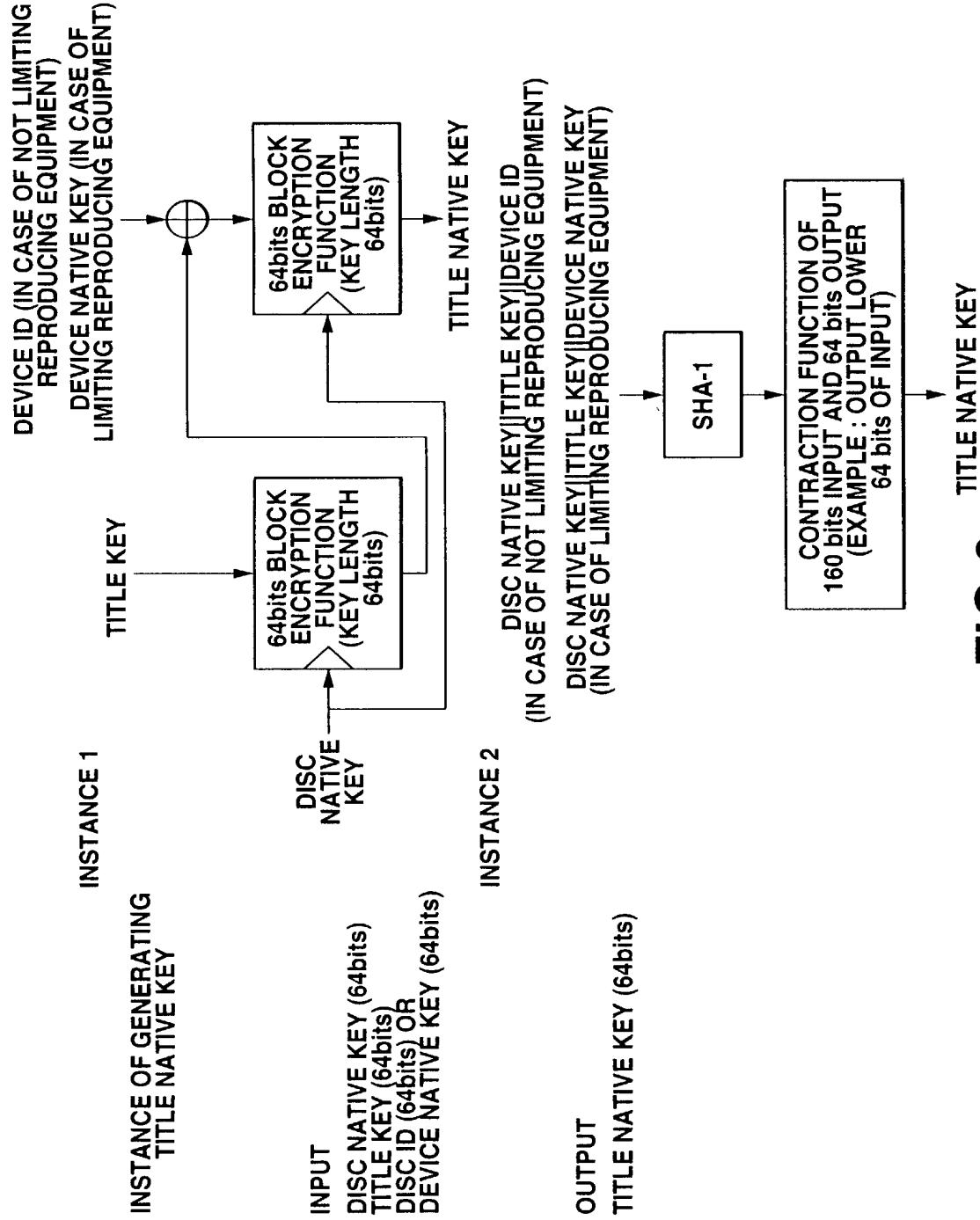


FIG.9

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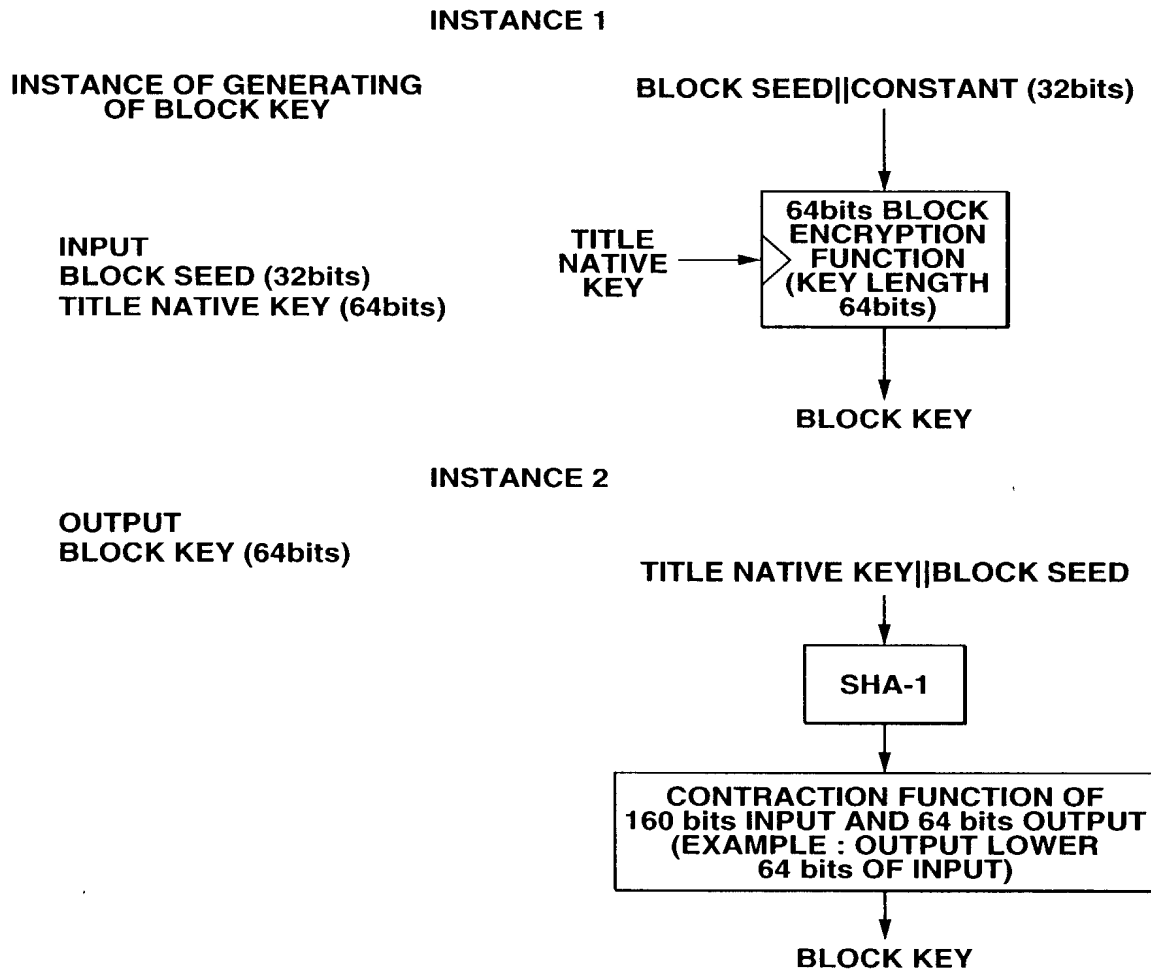


FIG.10

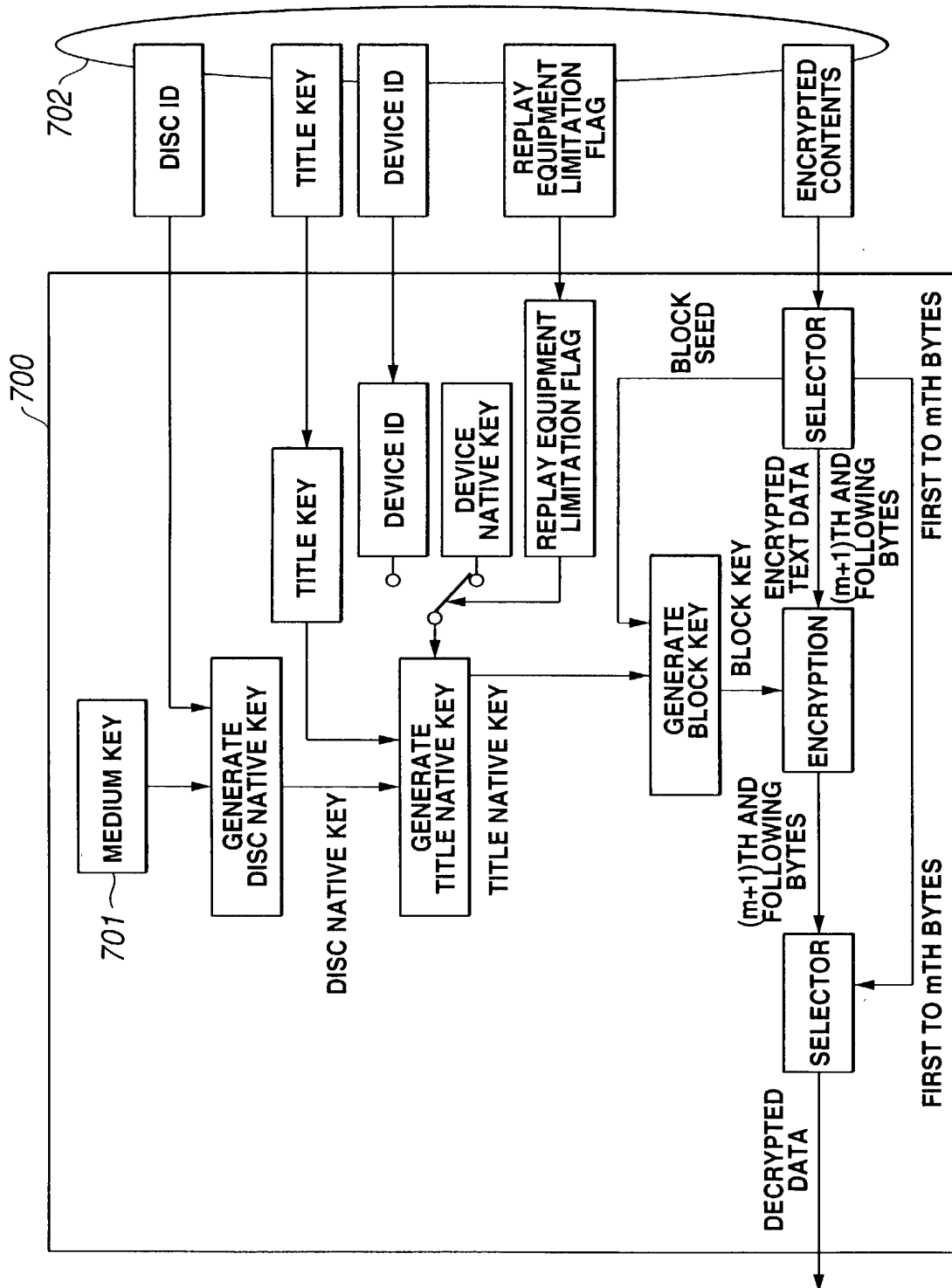


FIG. 11

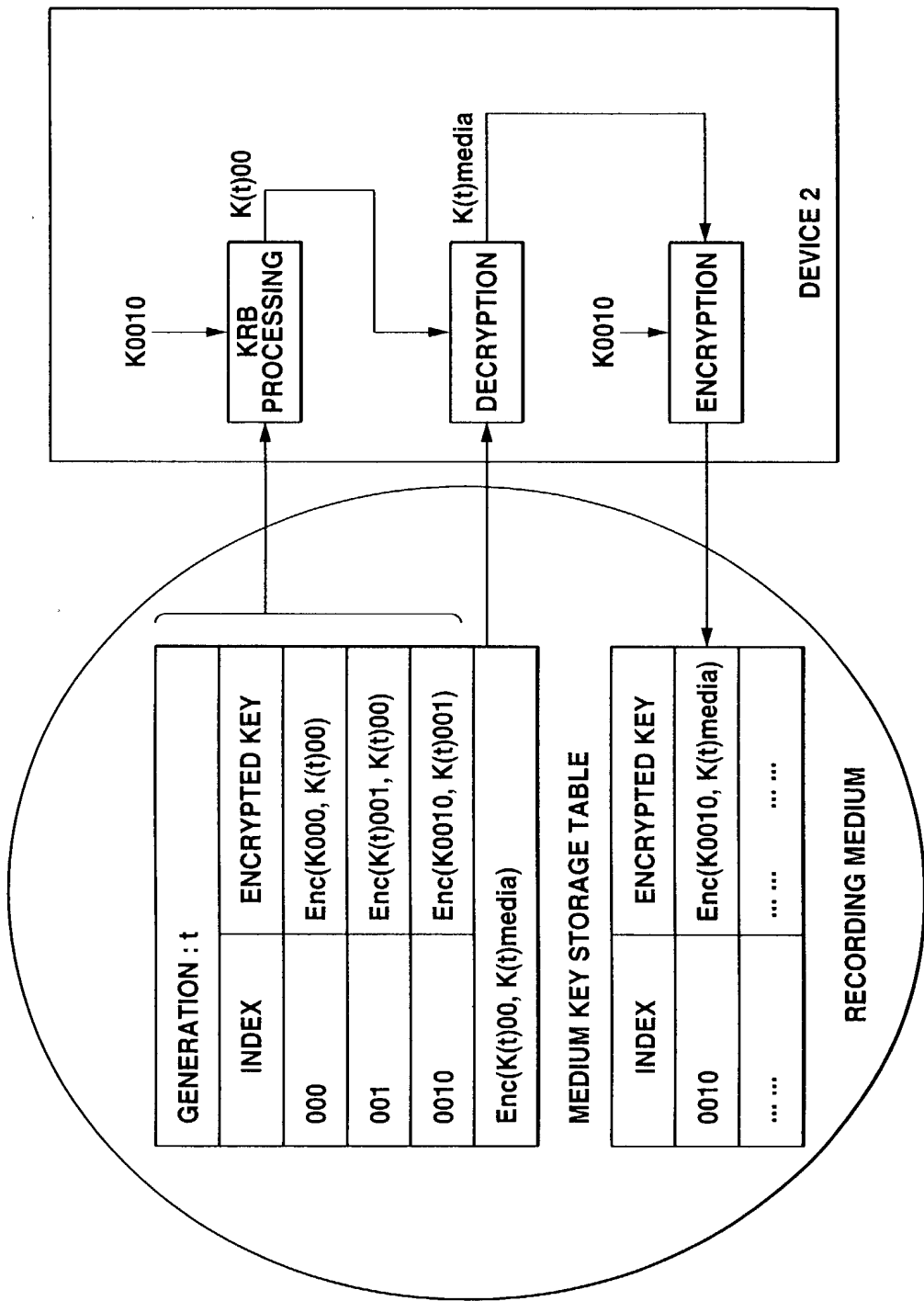


FIG.12

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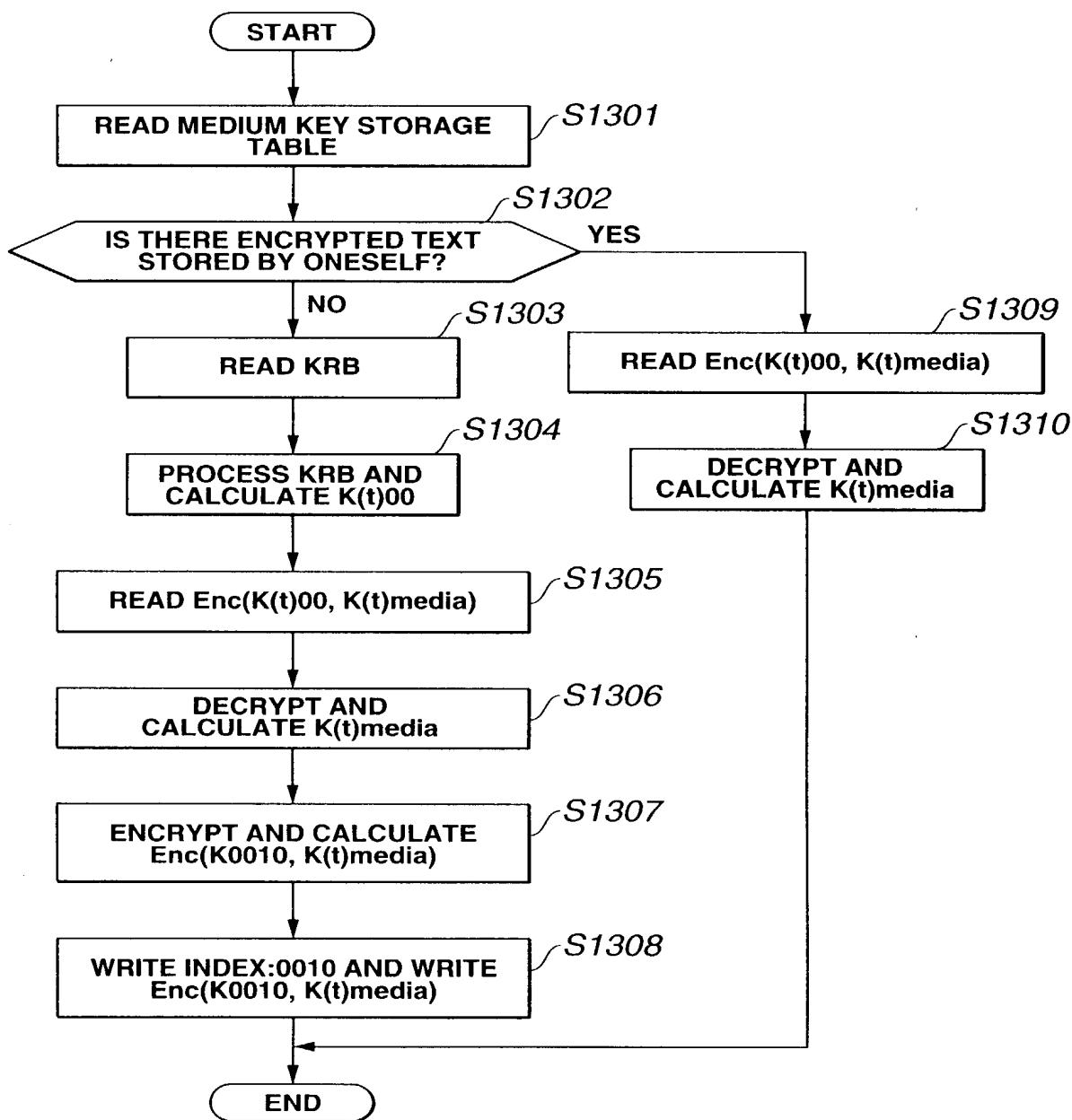


FIG.13

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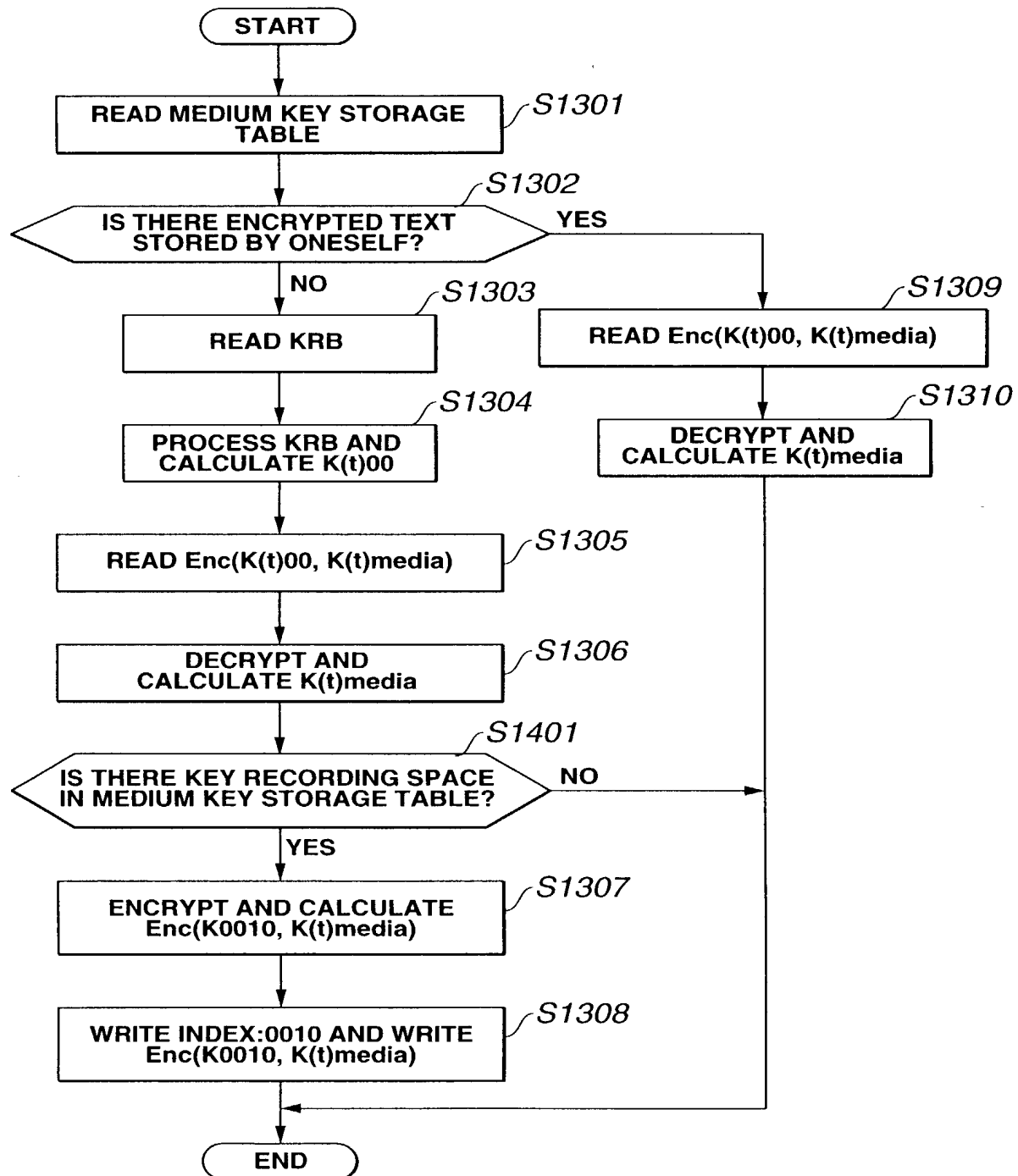


FIG.14

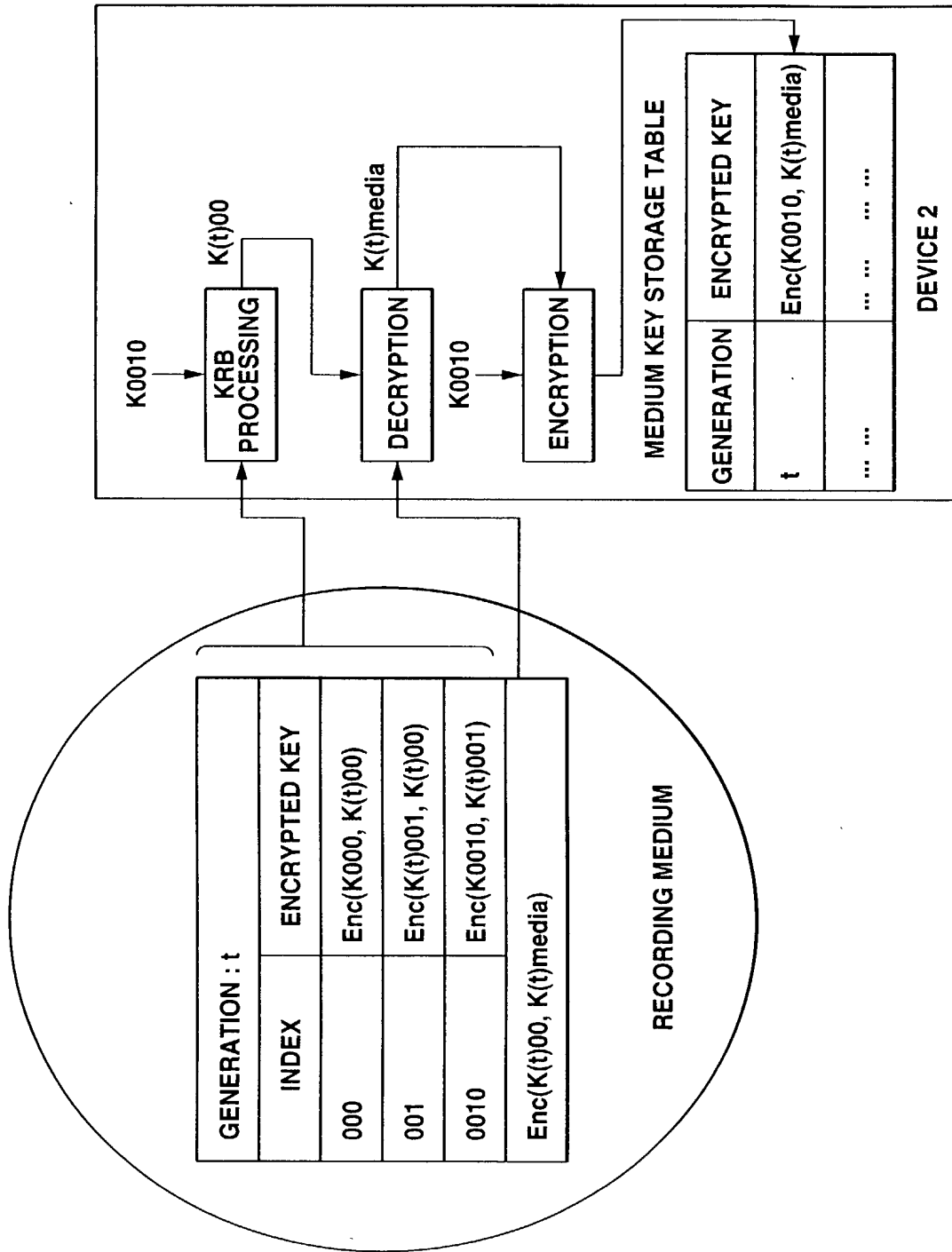


FIG.15

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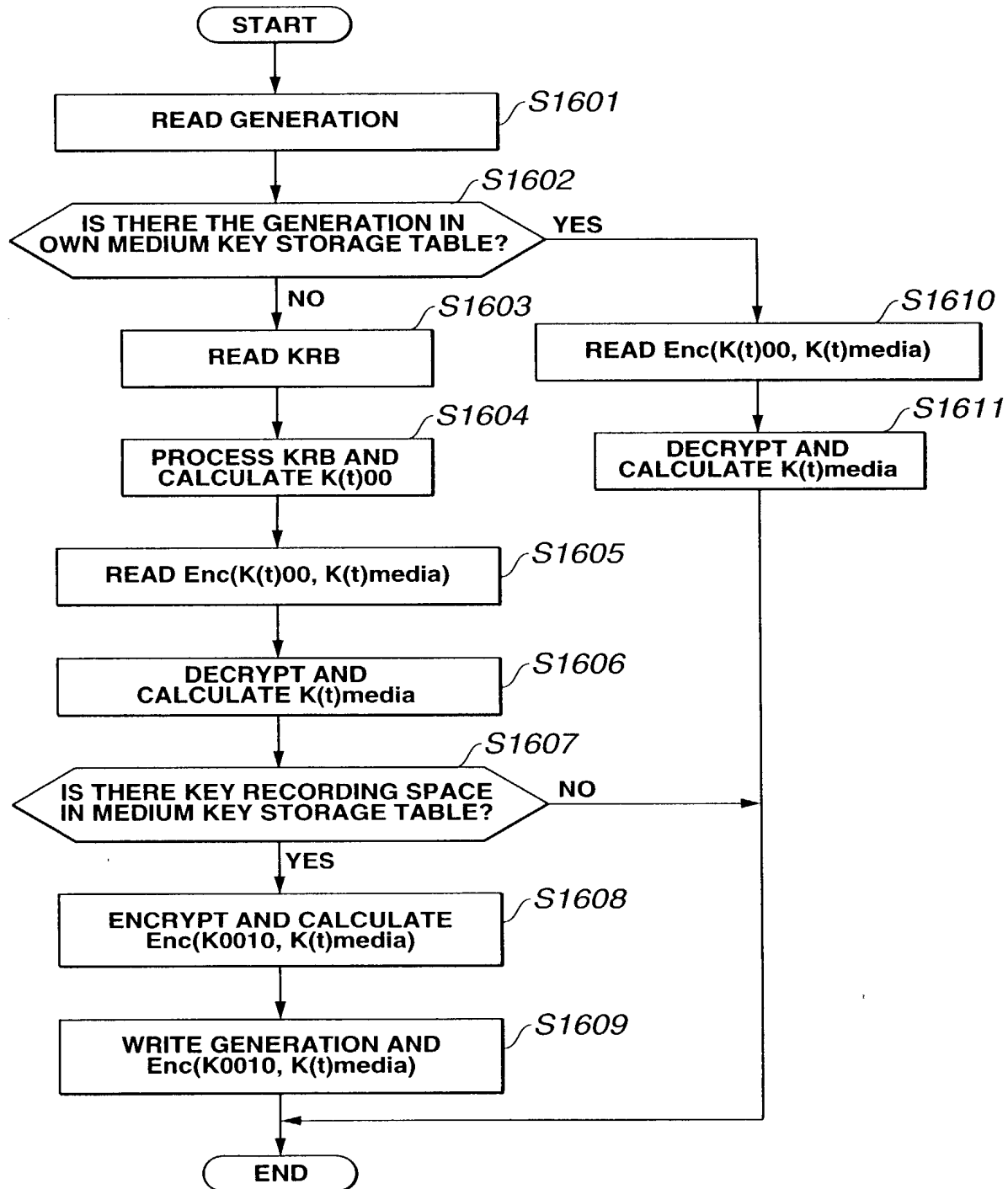


FIG.16

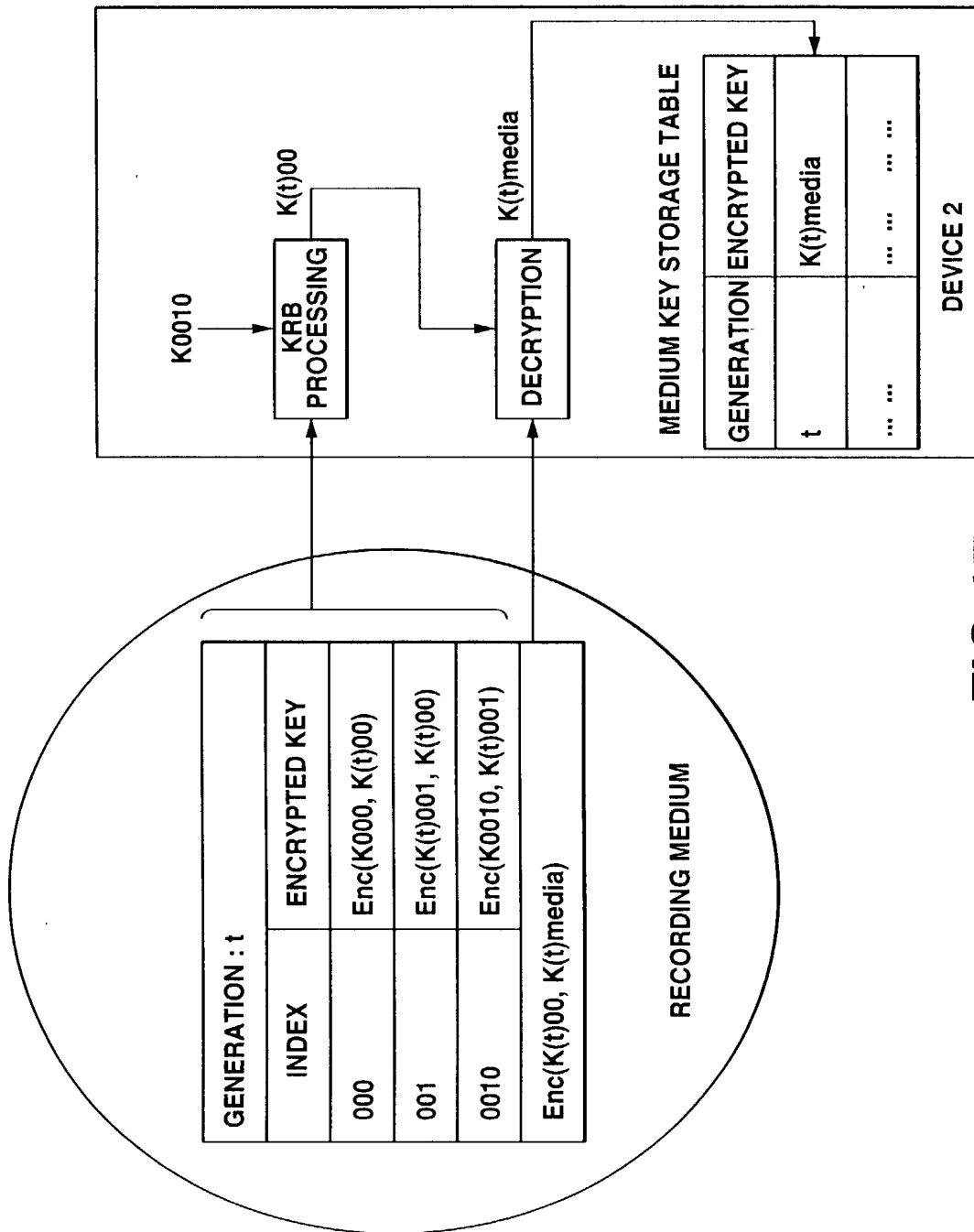


FIG.17

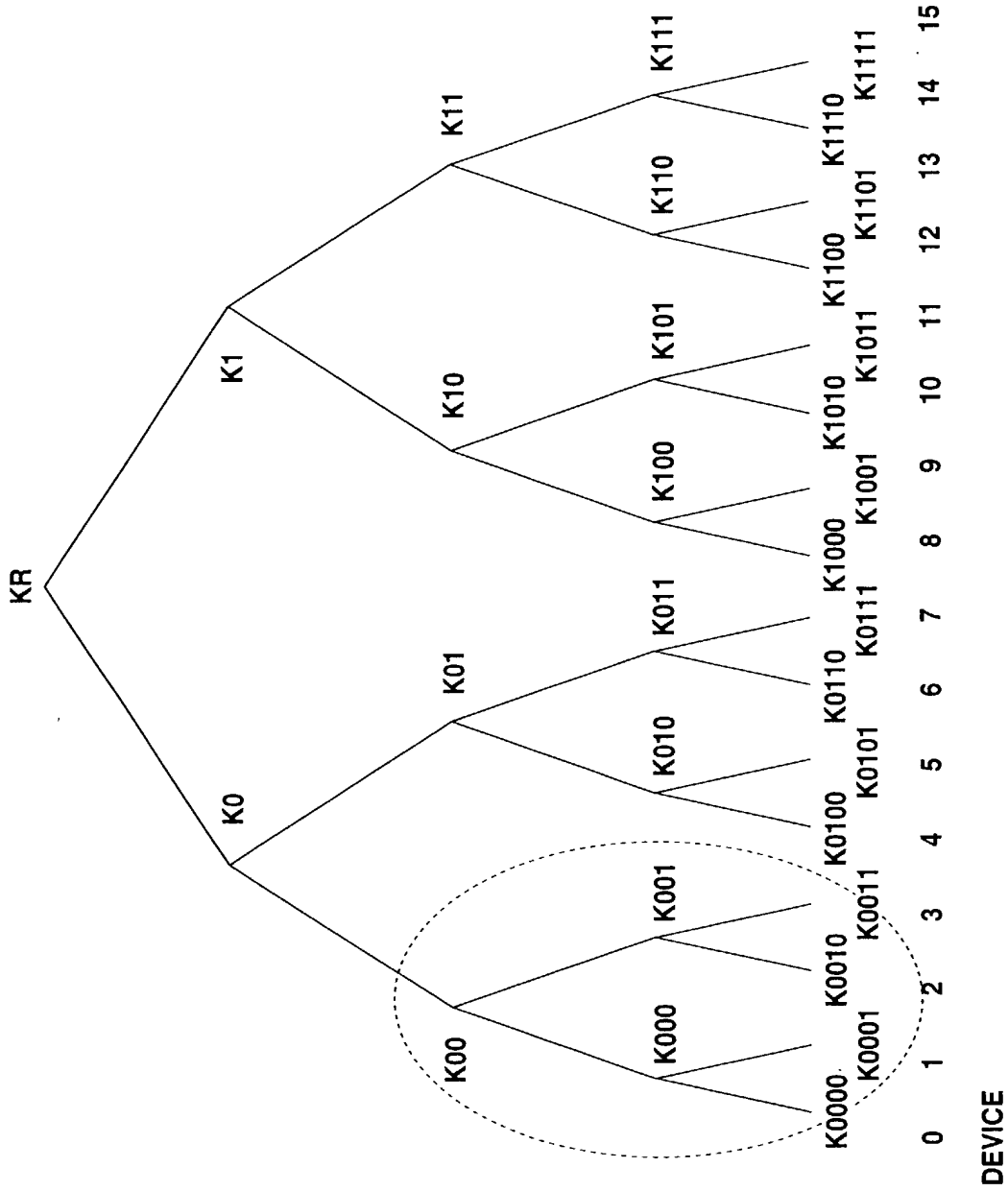


FIG.18

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KRB : Key Renewal Block INSTANCE 1
 SEND ROOT KEY $K(t)R$ AT TIME t TO DEVICES 0, 1, 2

GENERATION : t	
INDEX	ENCRYPTED KEY
0	$\text{Enc}(K(t)0, K(t)R)$
00	$\text{Enc}(K(t)00, K(t)0)$
000	$\text{Enc}(K000, K(t)00)$
001	$\text{Enc}(K(t)001, K(t)00)$
0010	$\text{Enc}(K0010, K(t)001)$

FIG.19A

KRB : Key Renewal Block INSTANCE 2
 SEND ROOT KEY $K(t)R$ AT TIME t TO DEVICES 0, 1, 2

GENERATION : t	
INDEX	ENCRYPTED KEY
000	$\text{Enc}(K000, K(t)00)$
001	$\text{Enc}(K(t)001, K(t)00)$
0010	$\text{Enc}(K0010, K(t)001)$

FIG.19B

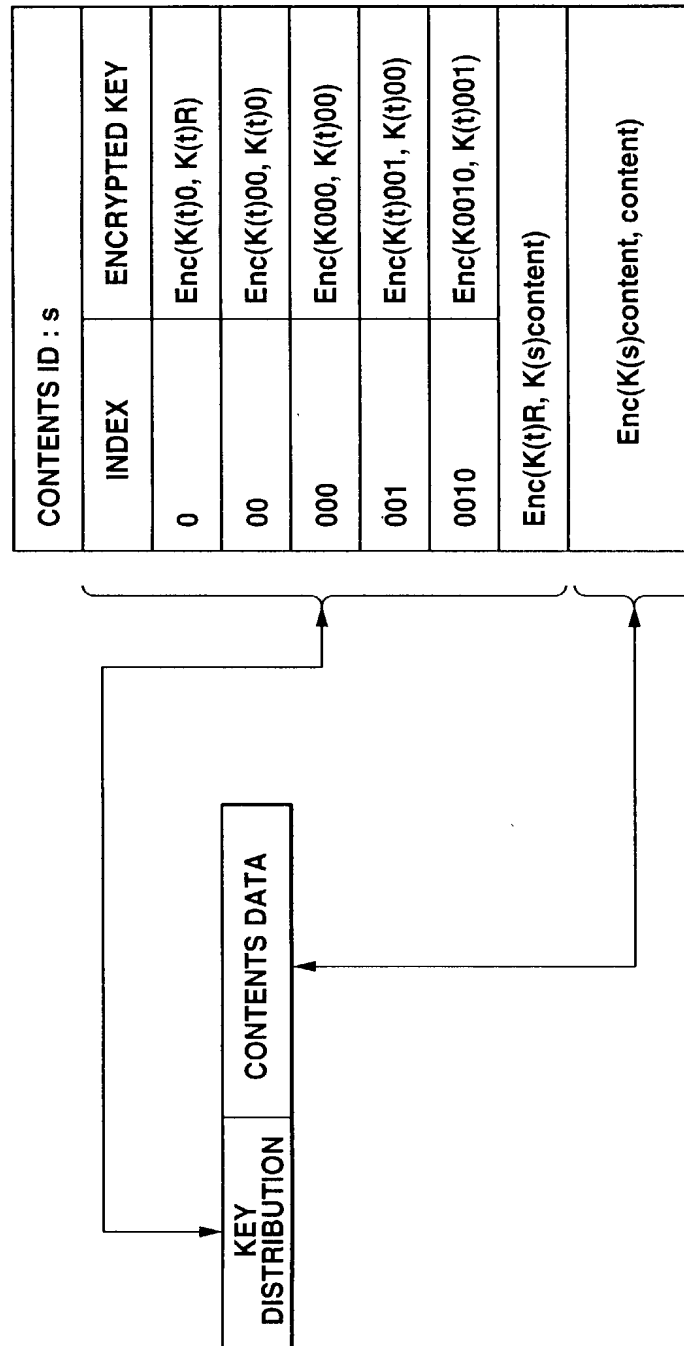


FIG.20

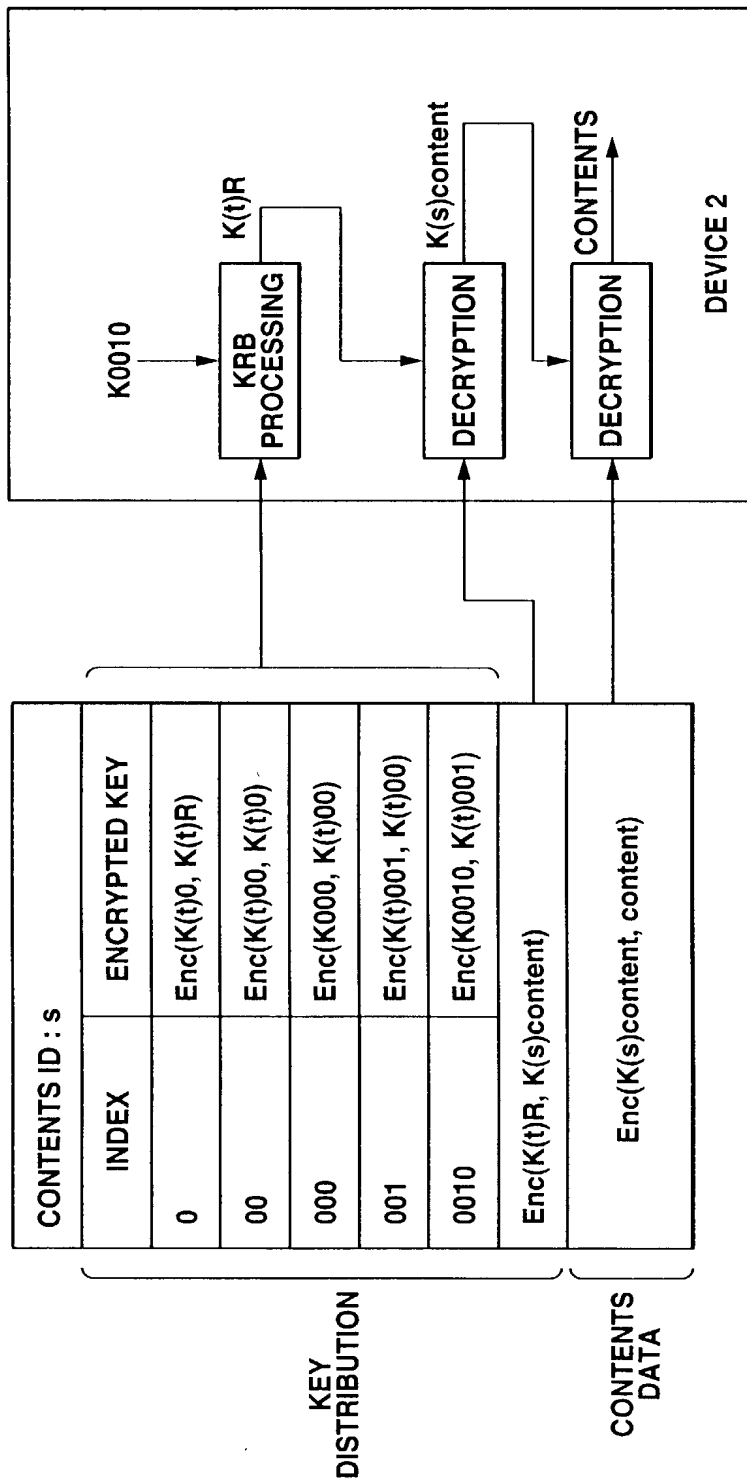


FIG.21

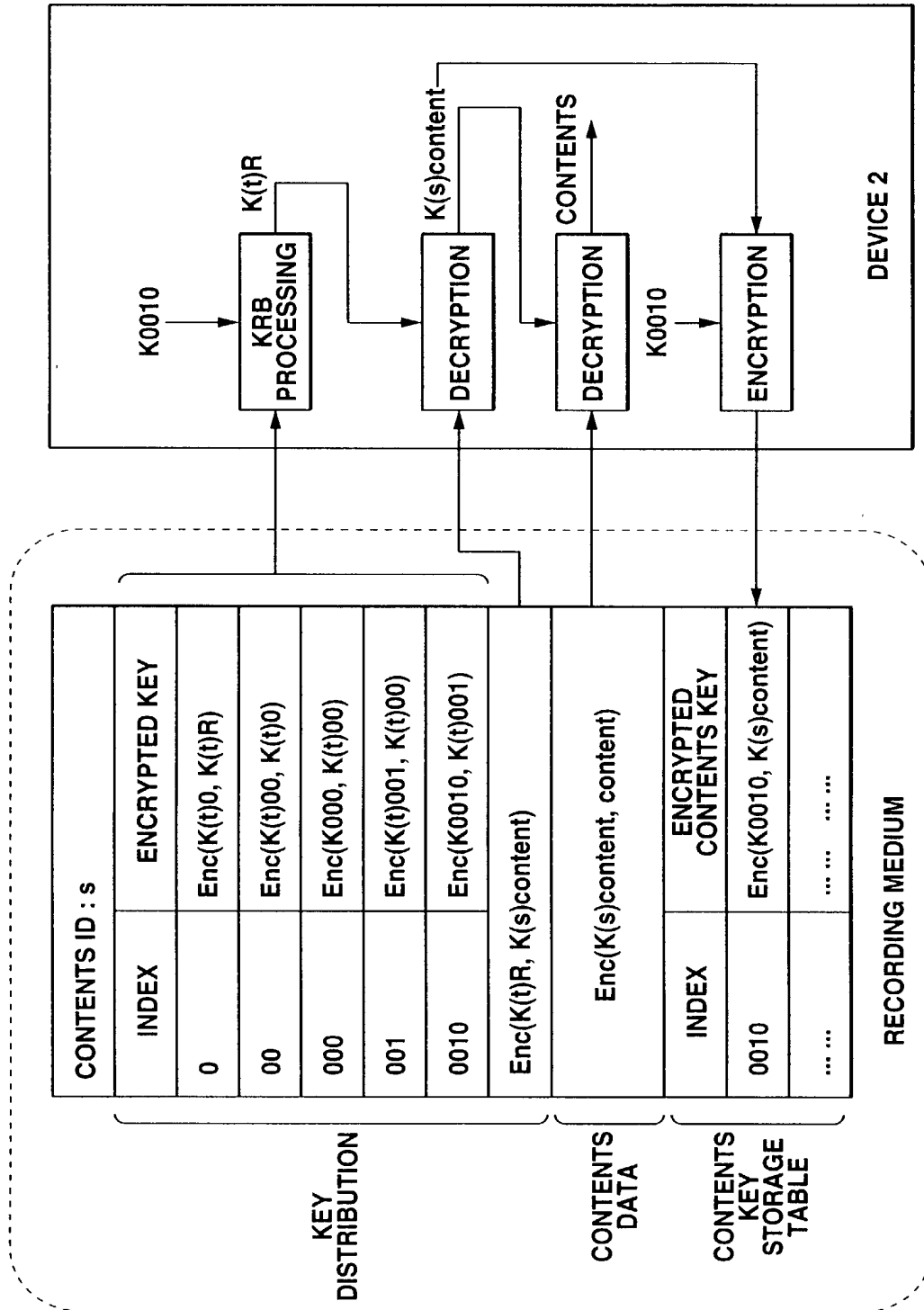


FIG.22

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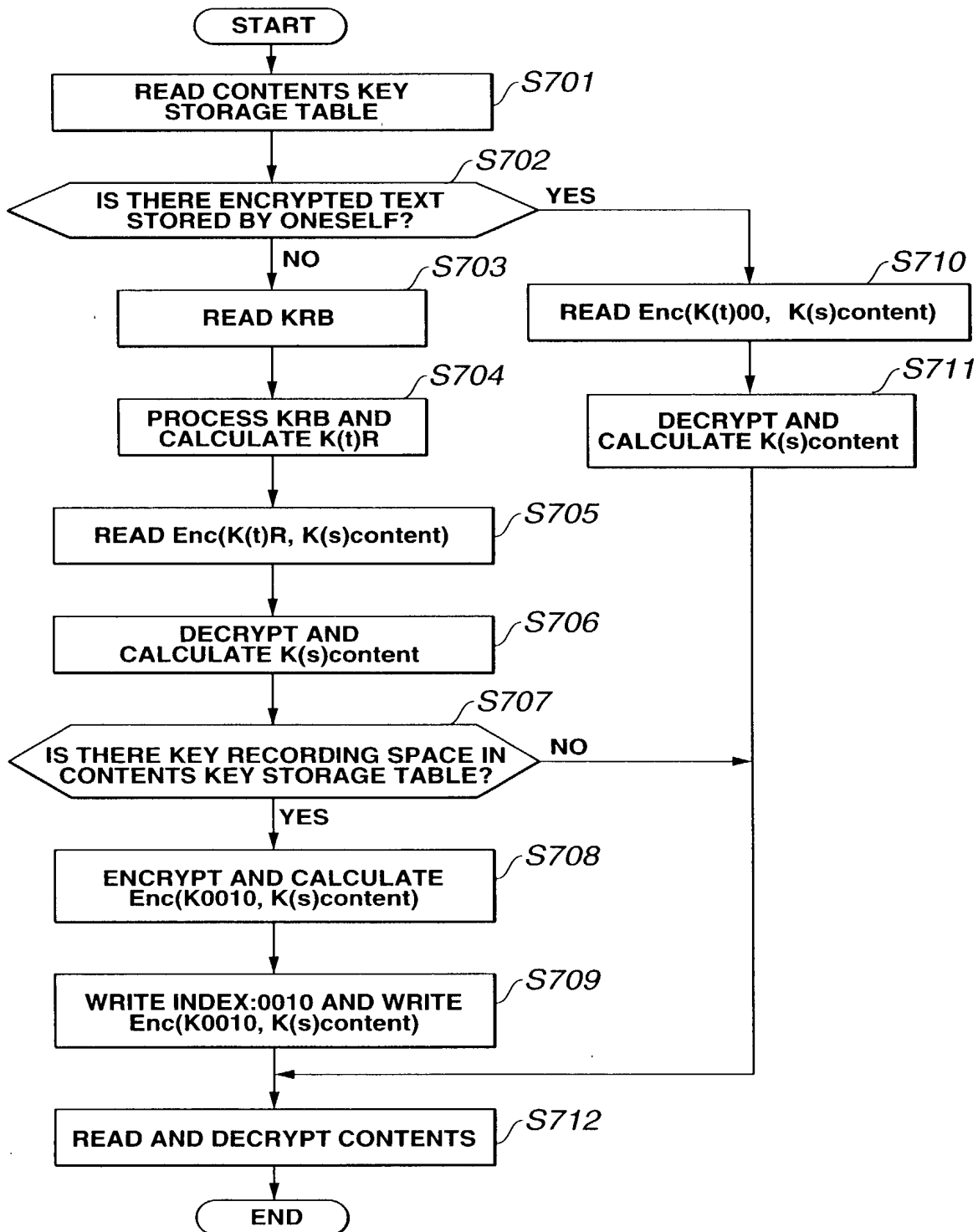
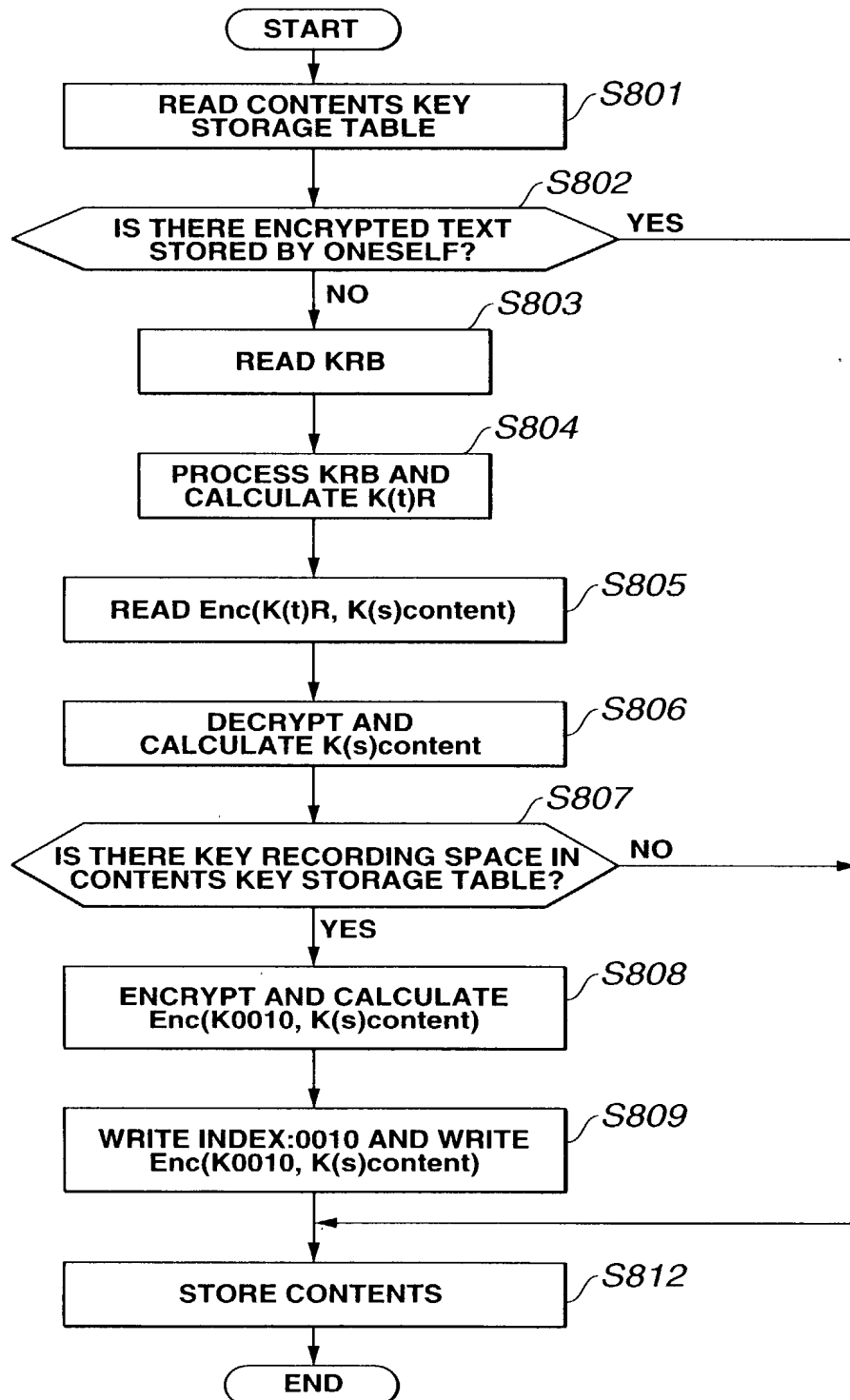


FIG.23

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**FIG.24**

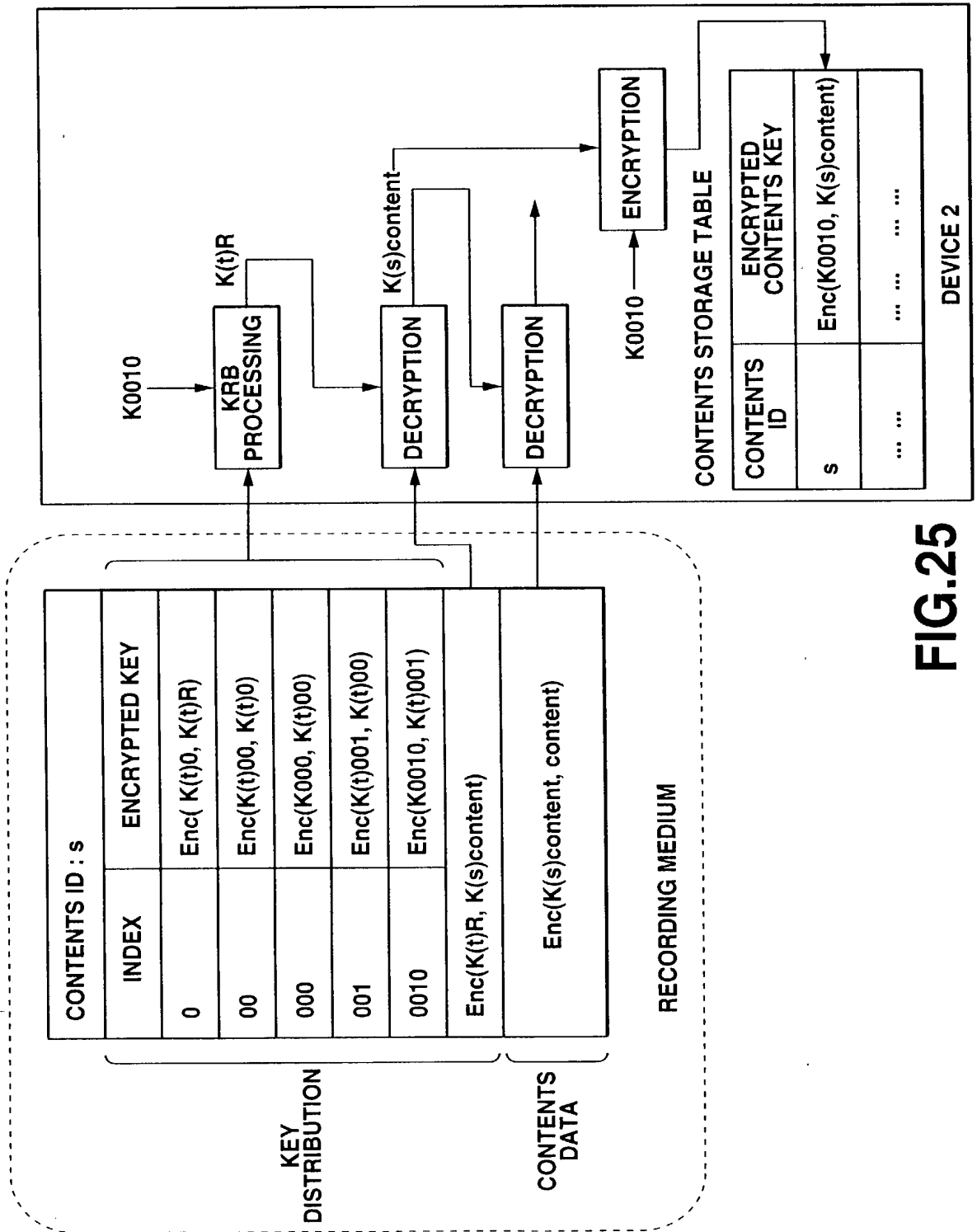


FIG.25

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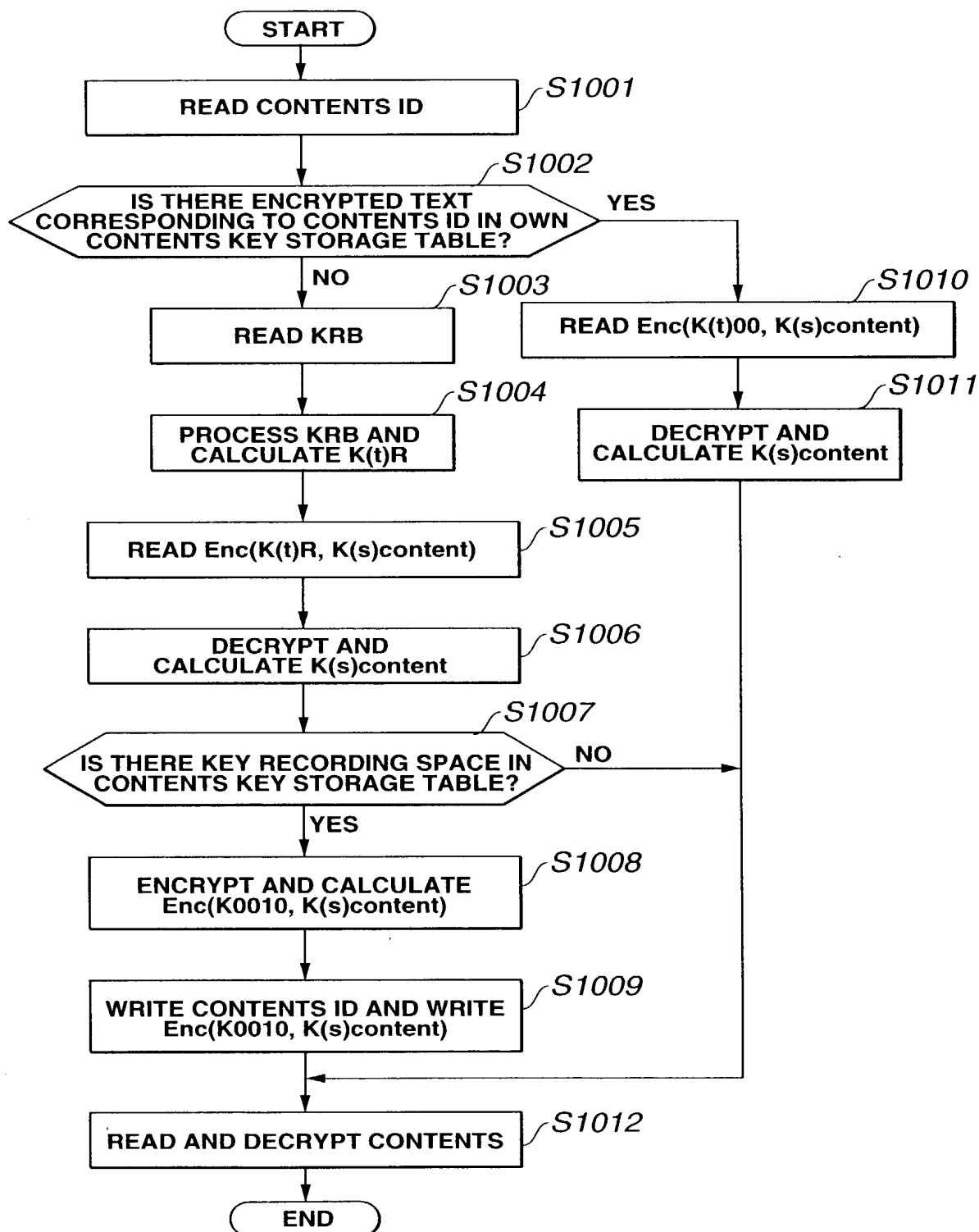


FIG.26

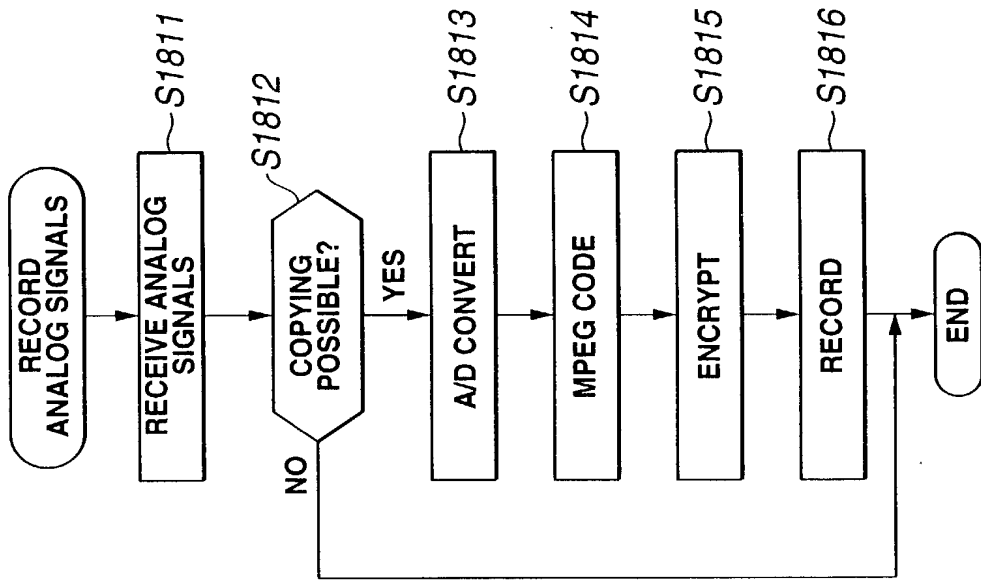


FIG. 27B

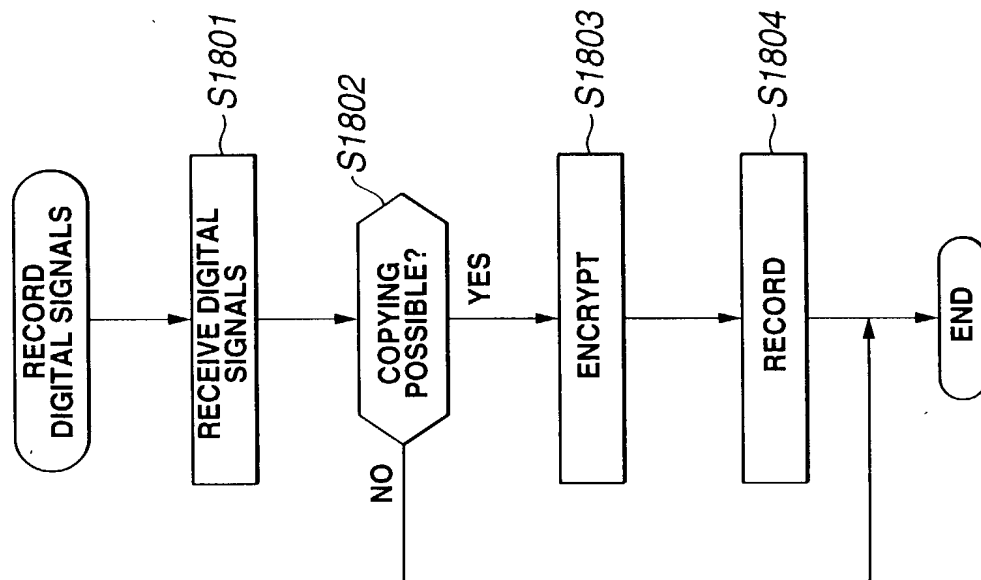


FIG. 27A

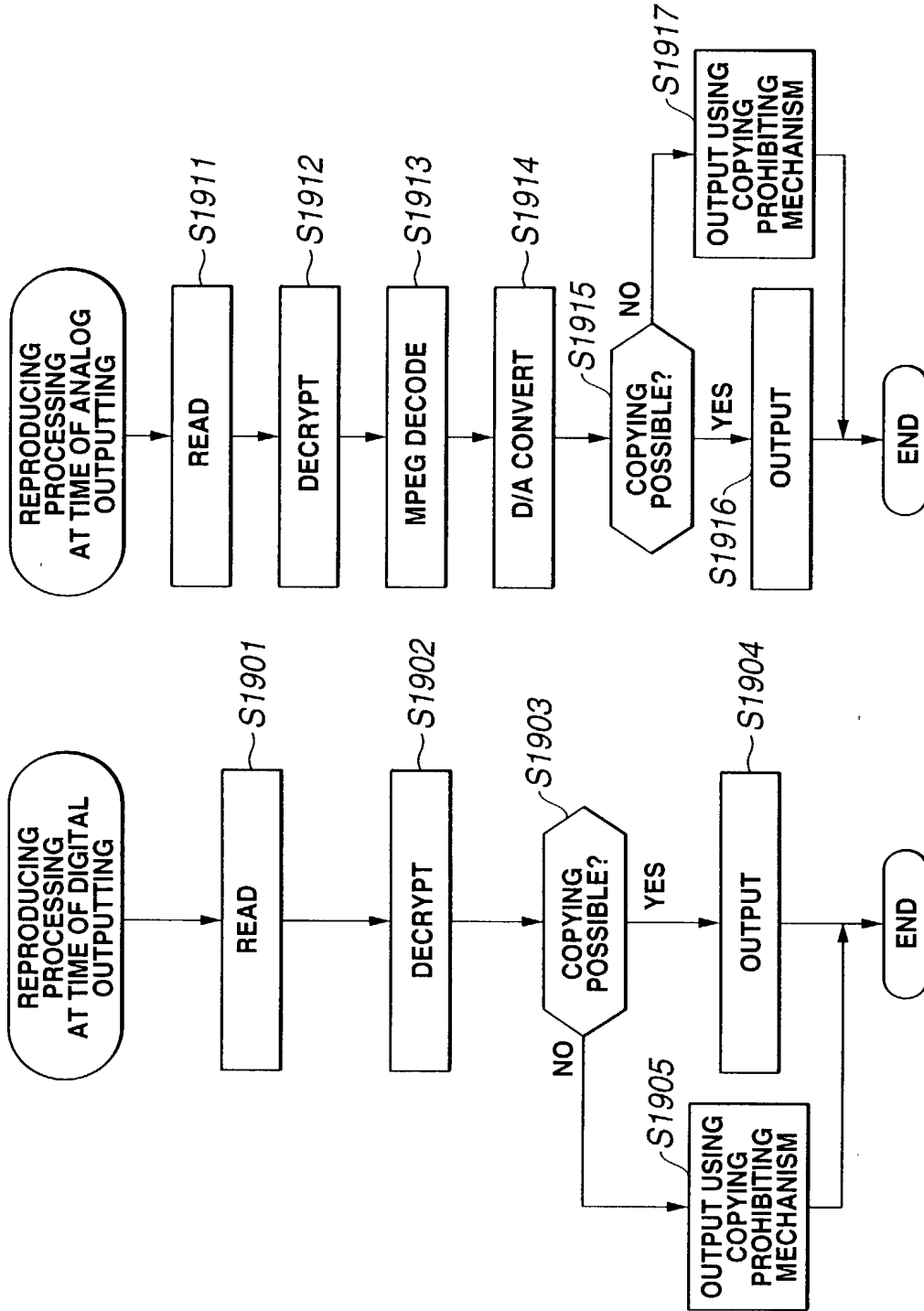


FIG.28B

FIG.28A

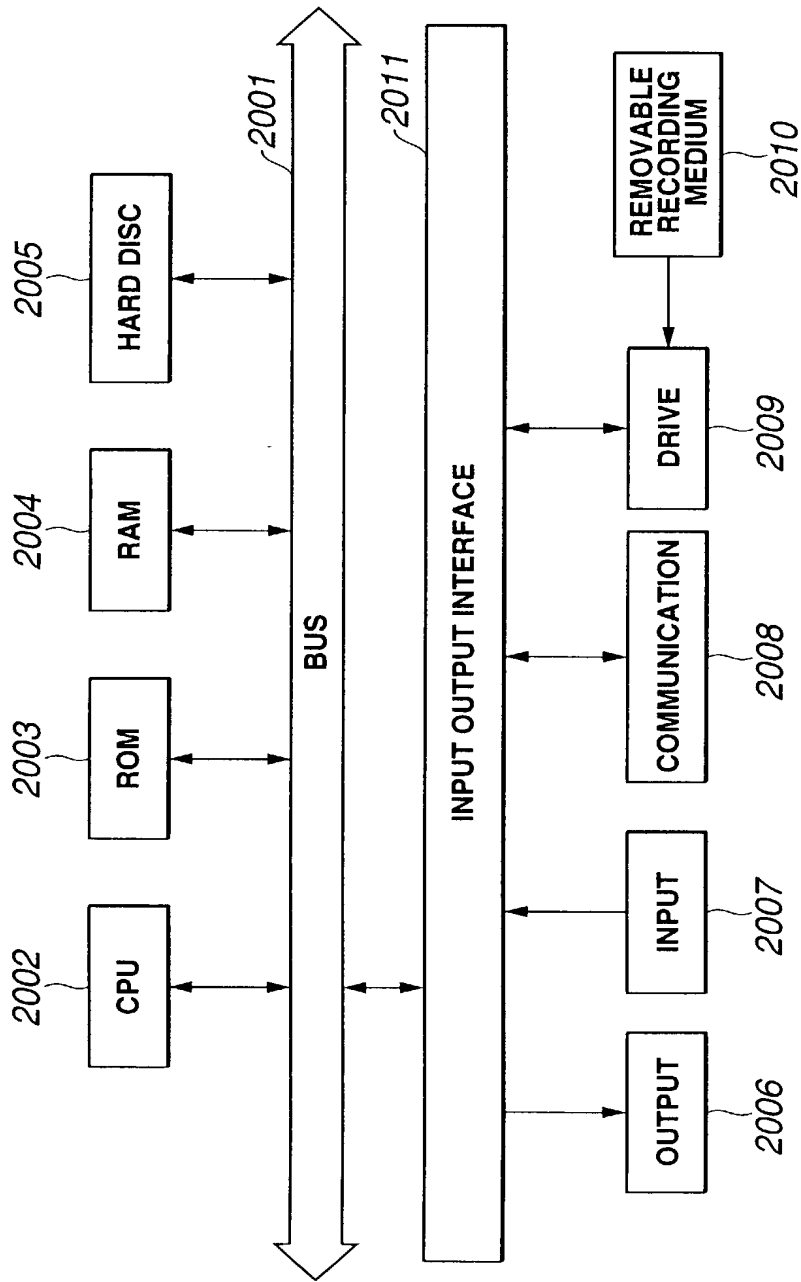


FIG.29